

28.16

JUN 12 1931



WALLACE & TIERNAN

COMPANY, INCORPORATED

NEWARK, NEW JERSEY



BALTIMORE BOSTON BRIDGEPORT BUFFALO CARTHAGE, MO. CHARLESTON CHARLOTTE CHATTANOOGA CHICAGO
CLEVELAND COLUMBUS DALLAS DENVER DETROIT FORT WORTH HOUSTON INDIANAPOLIS JACKSONVILLE KANSAS CITY
KNOXVILLE LEXINGTON LOS ANGELES MILWAUKEE MINNEAPOLIS MONROE, LA. NEW YORK OGDEN OKLAHOMA CITY
OMAHA PHILADELPHIA PITTSBURGH ROANOKE SAN FRANCISCO SEATTLE ST. LOUIS SPOKANE SYRACUSE
WALLACE & TIERNAN, LTD., TORONTO, WINNIPEG, MONTREAL, CANADA WALLACE & TIERNAN, LTD., LONDON, ENGLAND

TECHNICAL PUBLICATION NUMBER 41

THE SANITATION OF SWIMMING POOLS



REDONDO BEACH BATH HOUSE, LOS ANGELES, CALIFORNIA
One of California's most popular swimming resorts.

SWIM!

Is there anything more invigorating—anything healthier than a good swim? Today everybody swims and swimming has become one of the major and most popular sports!

Sanitary science has played a vitally important part in this. Beautiful pools, filled with clear, sparkling water invite us—make swimming attractive—and today the swimming pool is an adjunct of all the better playgrounds, schools, clubs, hotels and private estates.

The first public pool in North America was opened in New York City in 1901.

The swimming pool idea was slow to develop but through the efforts of the American Association for Promoting Hygiene and Public Baths, and in later years through the interest of the Amateur Swimming Associations, swimming pools have now become tremendously popular. Today hundreds of them are being constructed throughout the country and nearly every community boasts of a public pool.

It is obvious that the swimming pool presents a problem in public health. This has been met by Public Health officials and sanitary engineers combining in the

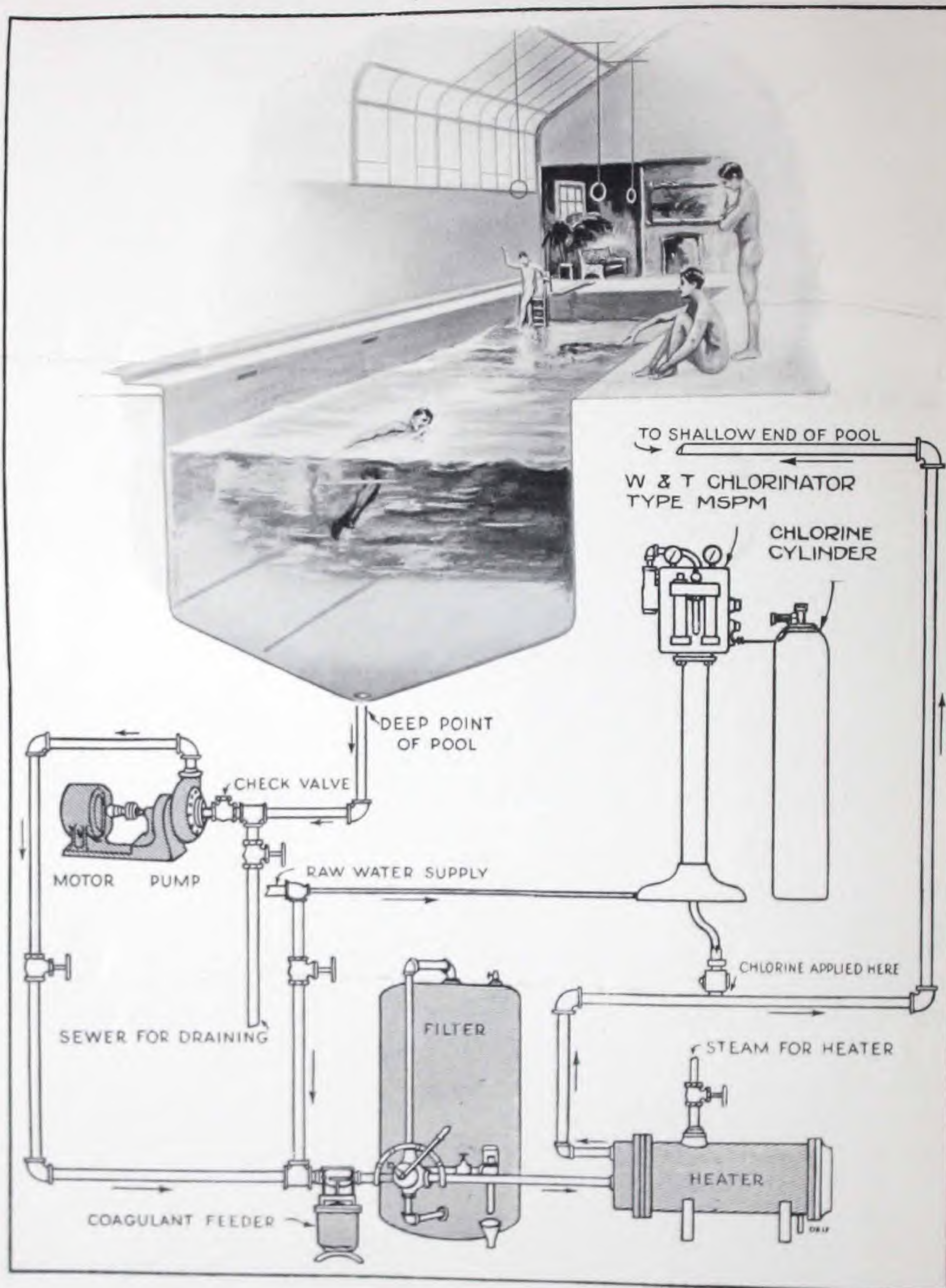


The water is pumped by a small motor driven centrifugal pump through a pressure filter, to effect clarification. It then passes through a thermostatically controlled heater. Chlorine is then added.

Purified, both physically and from a sanitary standpoint, the water again enters the pool.

This operation may be kept up indefinitely; additional water need be added only for the purpose of making up the loss due to evaporation and waste through the scum troughs. The water at the end of six months is often better than when introduced into the pool.

We are prepared to study your swimming pool conditions and to furnish, without obligation, estimates on chlorine control apparatus and all other equipment necessary for a recirculating system, conforming to the highest sanitary standards.



A TYPICAL SWIMMING POOL RECIRCULATION SYSTEM

WATER PURIFICATION
AND HEATING



FLEISHHACKER MEMORIAL POOL, SAN FRANCISCO, CALIFORNIA
One of the largest and most beautiful pools in the world

development of modern methods of swimming pool water purification.

If each individual could have a private pool for his sole use, with a constant inflowing stream of pure water, swimming pool purification would be unnecessary. But—just as soon as the pool is used by others a health problem is presented, for contamination from one bather pollutes the entire pool and comes in contact with every other bather. And as the bathers increase in number—or as it is technically termed, the greater the bathing load—the more acute is the health problem.

It has been with this in mind that State Departments of Health and Municipal Health Organizations have adopted regulations governing the sanitation of swimming pools and made provision to super-

vise their proper operation. In the interest of public health this is essential.

It has long been recognized that the swimming pool can be a medium for the transmission of disease* unless complete, continuous means for the purification of the water are adopted, and so, the modern public health engineer in assisting an architect in the design of a swimming pool, specifies the installation of a complete water purification system—in no sense differing in principle from the water purification systems installed by most of our American municipalities.

These pool water purification systems

*Atkin—Proceedings Illinois Water Supply Association, 1911.

Bunker & Whipple, Physical Education Review, 1913.

Levine—Journal of Infectious Diseases, 1916, Vol. 18.

1921 report, Committee on Swimming Pool Sanitation, American Public Health Association.



are based on the use of the water over and over again. The water is circulated continuously through the purification system, regenerated, purified, sterilized and returned to the pool. The purification system must be so installed and operated that the water in the pool is just as pure as the water drawn from the faucet at home.

"Swimming pool water," says the Surgeon General of the United States Army, "is essentially drinking water and must be measured by drinking water standards." The drinking water standards of the U. S. Public Health Service limit the bacteria to 100 per cubic centimeter, and in effect insist that the colon bacillus (the sewage germ) be absent in 100 cubic centimeters (3.4 ounces).

A properly operated filter will remove all of the dirt, color, turbidity and suspended material from the water and will deliver a clear, sparkling water to the pool. But a filter will *not* destroy the germs that are washed from the body of the bathers into the pool water,—it will *not* destroy the microbes of disease that might get into the water from one bather, which when transmitted to other bathers cause disease.

Just as health authorities have found that municipal drinking water must not only be filtered but must also be *sterilized*, so, in the case of swimming pool purification the water must be sterilized. There is no possibility of disease being transmitted by a *sterilized* swimming pool water. Filtration alone *cannot* give a sterile water,—and so today we find that swimming pool sterilization is a standard requirement contained in all health regulations pertaining to swimming pool sanitation.

If you ask health authorities,—“What is the best method of sterilization?” they will answer—

“*Chlorination!*”

And this because chlorination and chlorination alone, provides *continuous* sterilization throughout the entire pool. Bear in mind that the filtered, sterilized water, the moment it enters the pool and comes in contact with a bather, is again liable to pollution which will carry through the pool, increasing as the water nears the outlet. Some means must be provided to destroy this pollution and prevent the possibility of it spreading disease during its travel through the pool.

This is accomplished by chlorination.

A properly operated pool will have in the pool water at all times, just sufficient residual chlorine to destroy the microbes of disease. There is not enough to be noticed—the most sensitive bather cannot detect it. But there *is* enough there to kill a germ that is washed from the body or mouth rinsings of one bather *before* that germ can come in contact with another bather!

That is why health officials everywhere endorse chlorination. That is why the Joint Committee on Bathing Places of the American Public Health Association and the Conference of State Sanitary Engineers, after five years careful study states: “From all available information, the addition of chlorine . . . by the use of proper apparatus, is today the most satisfactory method of pool disinfection. . . .”

And just as chlorination is the accepted and preferred method of swimming pool sterilization so is Liquid Chlorine and W&T apparatus the preferred method of chlorination. That is because liquid chlor-



CRYSTAL POOL, WOODSIDE PARK, PHILADELPHIA, PENNSYLVANIA

ine is easily handled, always full strength, universally available, while the W&T sterilizer for controlling the application of the liquid chlorine is automatic, fool-proof, simple, durable. Once placed in operation it stays in operation.

Liquid chlorine and W&T swimming pool sterilizers remove the guess work from swimming pool sanitation.

The sterilization of water by liquid chlorine and W&T equipment is thoroughly established. There are over 6,000 installations of W&T apparatus, sterilizing upwards of five thousand million gallons of drinking water each day. Every

drop of drinking water delivered to over 3,000 communities in North America is sterilized with liquid chlorine. These public water supplies through chlorination meet the requirements of the United States Public Health Service for drinking water—while in just the same manner, in close to a thousand swimming pools protected by W&T sterilizers, the bathers are swimming in water fit to drink.

The almost universal use of W&T apparatus and liquid chlorine to sterilize public water supplies and swimming pool water has brought about Wallace & Tiernan's country-wide organization of trained



MUNICIPAL POOL, ALTOONA,
PENNSYLVANIA

public health engineers, each thoroughly conversant with all problems of water purification and each available to co-operate without charge with architects, engineers and owners interested in swimming pool sanitation.

Twenty-seven District Offices and Service Headquarters maintained throughout the country, makes it convenient to reach any customer on short notice.

W & T Chlorine Control Apparatus

W&T apparatus scientifically applies the chlorine to the pool water with absolute reliability—just the amount of chlorine desired, not a bit more and not a bit less. Quantities of chlorine as small as five-one hundredths of a pound in 24 hours (.0000006 pounds per second) can be accurately controlled.

There are no moving parts to get out of order or adjustment. You can always see the chlorine flowing. The chlorine meter is

hydraulic in principle; if it operates at all it operates correctly. There are no electric switches or coils to get out of order; no delicate lamps to be continually burning out.

The apparatus is portable. It is shipped completely assembled and ready for operation. Installation is a matter of hours and minutes, not of weeks and days. The apparatus may be installed at any convenient point. No special preliminary layout work is necessary, an important factor to be considered by architects and designing engineers inasmuch as it simplifies the preparation of their plans.

For the majority of pools our Manually Controlled, Solution Feed—known as Type MSPM—chlorinator is applicable. This apparatus has a maximum capacity of 10 lbs. of chlorine per 24 hours—enough to handle pools up to 500,000 gallons capacity ordinarily.

In this type apparatus chlorine gas is first mixed with an auxiliary water supply in the machine and the resultant chlorine solution applied to the filter effluent line, if recirculation is used, or to the inflowing water, if the pool is of the fill and draw type. In order to overcome the slight pressure that may exist in the filter effluent line an injector is used.

The auxiliary water pressure must be four times greater than the pressure at the point of application of the chlorine solution, and at least 15 pounds per square inch. With a pool of the fill and draw type, an injector is not ordinarily needed.

For beaches, lakes and large outdoor pools, we have developed a Chloro Boat for efficiently applying the chlorine. Full particulars will be given on request.



The W & T Swimming Pool Sterilizer Type MSV

THE most efficient sterilizer for large pools—particularly adapted to outdoor pools with heavy bathing loads.

A regular man-sized chlorinator—rugged—damage proof—easy to operate—reliable and accurate.

Average maintenance cost less than 1 per cent per year.

Over 2,000 units of this type are installed and in operation sterilizing drinking water.

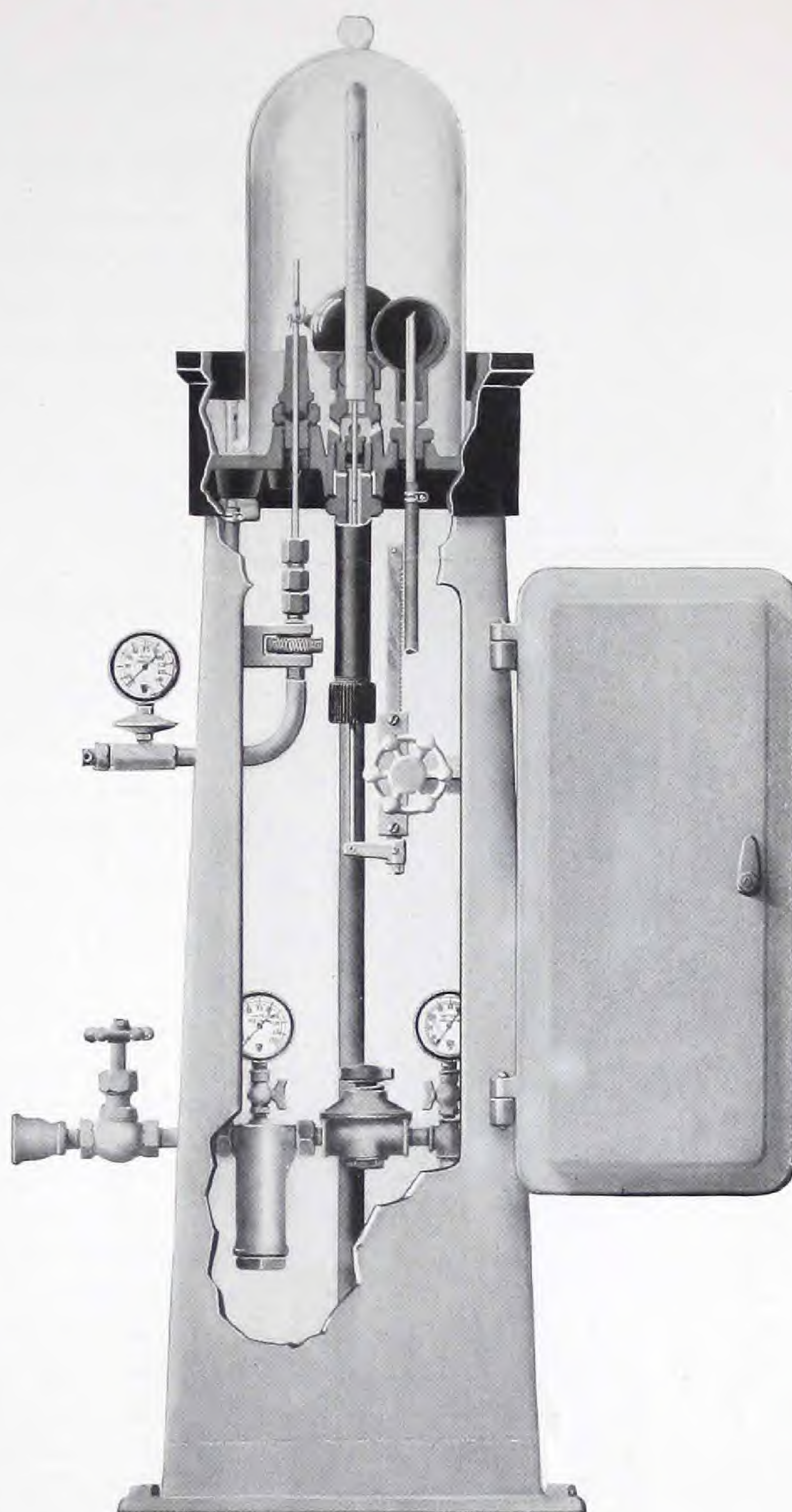
Specifications

Manual Control Chlorinator Vacuum Solution Feed Type MSV or MSVM

The chlorinator shall be a self-contained unit with cast-iron pedestal mounting and equipped with vacuum float-operated chlorine pressure reducing and constant flow valve located under a glass bell jar resting in a hard rubber tray which shall operate to cut off the flow of chlorine should the water supply to the apparatus accidentally fail.

A visible meter of the orifice type located under the bell jar shall measure the flow of gas under vacuum and shall not show a greater variation than 4 per cent from the true delivery of chlorine on all flows within the working range of the meter.

The equipment shall contain a chlorine injector which shall discharge the chlorine solution to the point of application. An air relief trap of the ball-float type located under the glass bell jar shall prevent water getting back into the gas lines of the apparatus. All control parts of the equipment shall



THE W&T CHLORINATOR, TYPE MSV

be of materials specially adapted for chlorine control and shall be easily accessible for inspection and cleaning.

GUARANTEE: The apparatus shall be guaranteed against all inherent mechanical defects for a period of one year from date of shipment from factory.

HEIGHT: 57½ inches. **FLOOR AREA:** 20 inches by 24 inches.

SHIPPING WEIGHT: 600 pounds.



The W&T Swimming Pool Sterilizer Type MSP



THE W&T CHLORINATOR, TYPE MSP

THE W&T chlorinator Type MSP, especially developed for moderate size pools—up to 500,000 gallons capacity. Hundreds of units of this big, husky chlorinator are in operation. The semi-vacuum principle used insures long life. Its rugged, flood-proof construction reduces maintenance charges to a minimum.

Its substantial construction and attractive appearance make it an ornament wherever installed.

Specifications

Manual Control Solution Feed Chlorinator Type MSP or MSPM

The chlorinator shall be a self-contained unit with cast-iron base and metal support and shall contain a chlorine pressure-reducing and compensating valve which shall maintain a constant flow of chlorine with any one setting of the control valve regardless of varying pressures in the chlorine cylinders.

There shall be mounted on the metal cabinet of the equipment a hard rubber head block which in turn shall support a glass meter jar which shall house a visible volumetric meter of the pulsating type having a capacity range from .5 to 10 pounds of chlorine per 24 hours, or of the bubbling type with a capacity range of .05 to 1.2 pounds per 24 hours. All meters shall be interchangeable and shall not show a greater variation than 4 per cent from the true delivery of chlorine on all flows within the working range of the meter.

The head block shall also support a vacuum relief seal communicating with the chlorine line from the pressure compensator and shall prevent water being drawn back into the gas control parts of the equipment. An injector taking its suction from a glass suction chamber supported from the head block shall discharge the chlorine solution to the point of application. The injector suction chamber shall be provided with a relief to prevent the escape of chlorine gas into the room in the event of accidental failure of the water supply.

A constant level box mounted within the metal cabinet shall supply water to the injector suction chamber and chlorine meter chamber.

GUARANTEE: The apparatus shall be guaranteed against all inherent mechanical defects for a period of one year from date of shipment from factory.

HEIGHT: 68 inches. **FLOOR AREA:** 20 inch circle.

SHIPPING WEIGHT: 375 pounds.



THE W & T CHLORO-CLOCK

THE W&T Chloro-clock is an equipment for metering and feeding small quantities of sterilizing solution. It operates on the displacement principle, the control being obtained from a clock work mechanism which actuates an arm from which a displacing cylinder is suspended. The rate of feed of solution is adjusted by means of a pendulum mechanism and is arranged so that the contents of the cylinder container can be discharged in 20 hours or 8 days. A water supply under pressure feeds the small constant level box into which the solution drops. The same water supply also operates an injector which draws from the constant level box and applies the diluted sterilizing solution to the desired point of application.

The chloro-clock is started in operation by merely turning on the water supply and moving a lever which starts the clock mechanism in motion. Taking the equipment out of service is done with similar ease.

Aside from the periodic wind-up of the weighted cylinder, filling the container jar and an occasional cleaning of the strainer in the water line, the chloro-clock requires no attention.

Specifications

The equipment shall be a self-contained unit mounted on a cast-iron base and with suitable metal support. It shall be suitable for feeding a hypochlorite sterilizing solution of definite strength and shall operate on the displacement principle, the control being obtained from a clock-work mechanism which actuates an arm from which a displacing cylinder is suspended. The rate of feed of solution shall be adjustable by means of a pendulum lever so arranged that the contents of the cylinder container can be discharged at varying rates as required from 20 hours to 8 days.

Where the sterilizing solution must be applied against a positive pressure, the equipment shall be provided with an injector operated by an external water supply under pressure and drawing from a constant level float box so placed as to receive the

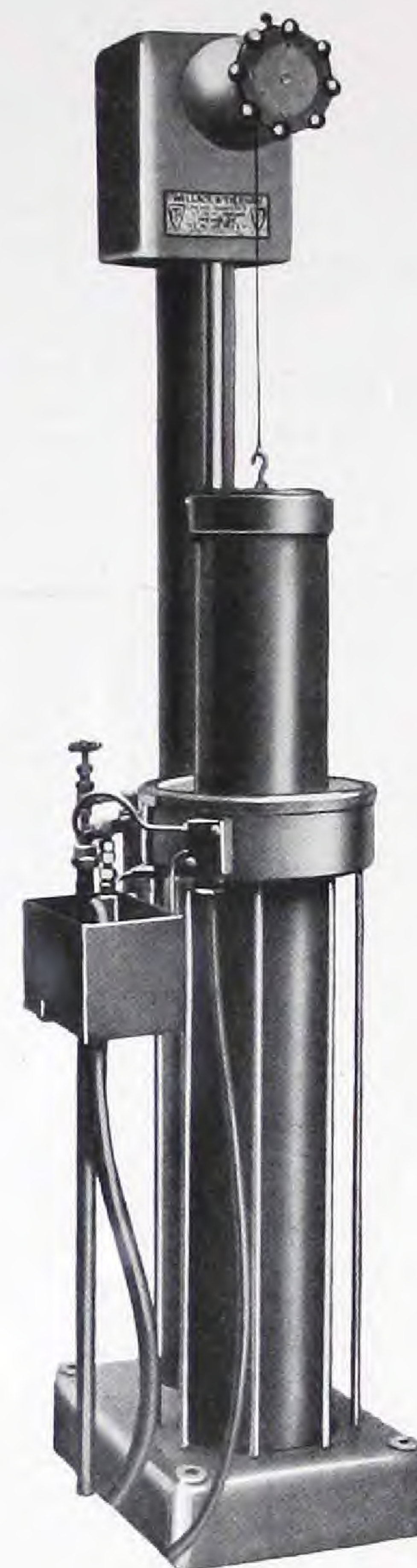
sterilizing solution that flows from the cylinder container.

All parts of the equipment with which the chlorine sterilizing solution comes in contact shall be of materials resistant to the action of sterilizing solution. All parts of the clock-work mechanism shall be properly protected but easily accessible and so designed that raising the weighted displacement cylinder will automatically wind the clock mechanism.

GUARANTEE: The apparatus shall be guaranteed against all inherent mechanical defects for a period of one year from date of shipment from factory.

HEIGHT: 67 inches. **FLOOR AREA:** 16 inches by 18 inches.

SHIPPING WEIGHT: 400 pounds.



THE W & T CHLORO-CLOCK



Partial List of Wallace & Tiernan Swimming Pool Installations

ALBANY BIRMINGHAM	ALABAMA Malone Pool Birmingham Athletic Club Birmingham Boys' Club Birmingham Country Club Y. M. H. A. Cascade Springs Corporation Tuscumbia Amusement Co.	HIGHLAND PARK KANKAKEE LAKE FOREST LA SALLE MONTICELLO MT. VERNON PANA PARK RIDGE PRINCETON QUINCY SPRINGFIELD URBANA WILMETTE	Deerfield Shields High School High School Lake Forest College La Salle-Peru Township High School Hon. Allen F. Moore Park Department Chatauqua Assn. Parish House St. Mary's Episcopal Church Alex. Anderson's Swimming Pool Western Catholic Union Bldg. Knights of Columbus University of Illinois (2 pools) Ben F. Marshall Studio
CASCADE TUSCUMBIA	CALIFORNIA Alameda Park Co. (Neptune Beach) Alhambra Municipal Plunge California School for Deaf and Blind H. W. Robinson (Private Pool) Thomas May (Private Pool) Municipal Plunge Mt. Diablo Country Club Glendale Swimming and Athletic Club Y. M. C. A. Long Beach Bathhouse and Amusement Co. Polytechnic High School Los Angeles Athletic Club Jonathan Club Los Angeles Playground Dept. Part Time High School R. M. Taylor (Private Pool) Y. W. C. A. Brookside Plunge Pasadena Athletic and Country Club Pasadena High School Municipal Plunge Mission Beach Bathhouse San Fernando Coliseum Plunge Crystal Palace Baths Fleishacker Memorial Pool So. Calif. Edison Co. (Los Banos Del Mar Bathhouse)	ANDERSON BLOOMINGTON BROAD RIPPLE EAST CHICAGO INDIANAPOLIS	INDIANA Municipal Pool University of Indiana Broad Ripple Park Co. Todd Park Highland Golf Club Hoosier Athletic Club Rhodius Park Pool Y. M. C. A. County Memorial Coliseum High School Municipal Pool Y. M. C. A. Community House Whiting High School
ALAMEDA ALHAMBRA BERKELEY BEVERLY HILLS	PASADENA	MT. VERNON SOUTH BEND	IOWA Cedar Rapids Country Club Municipal Natatorium Wakonda Country Club Y. W. C. A. High School Y. M. C. A. Knights of Columbus
CULVER CITY DIABLO GLENDALE HOLLYWOOD LONG BEACH	REDLANDS	WHITING	KANSAS City of Atchison Pool St. Benedict's College Army and Navy Y. M. C. A. Municipal Pool Klamm Park Rosedale Park University of Kansas Wichita High School Elks Club
LOS ANGELES	SAN FERNANDO SAN FRANCISCO SANTA BARBARA	CEDAR RAPIDS DAVENPORT DES MOINES MUSCATINE OTTUMWA SIOUX CITY	KENTUCKY Crescent Hill Pool Louisville and Jefferson County Children's Home Country Club
DENVER	CONNECTICUT Capitol Park Y. M. C. A. Y. W. C. A. Y. M. C. A. Yale University Y. M. C. A. Central Branch Y. M. C. A.	ATCHISON FORT LEAVENWORTH FRANKFORT KANSAS CITY LAWRENCE WICHITA	LOUISIANA Mansfield Female College City Park Pool Board of Catholic Charities New Orleans Country Club
HARTFORD	DELAWARE Wilmington Natatorium, Shellpot Park Y. W. C. A.	LOUISVILLE	MAINE Y. M. C. A. Y. M. C. A.
NAUGATUCK NEW HAVEN	DISTRICT OF COLUMBIA Congressional Country Club Potomac Park Tidal Basin Y. W. C. A.	PADUCAH	MARYLAND U. S. Naval Academy Knights of Columbus Mt. St. Agnes College Y. M. C. A. Tome School
WATERBURY	FLORIDA Venetian Casino Pool	MANSFIELD NEW ORLEANS	MASSACHUSETTS University Club Y. M. C. A. Radcliffe College High School Y. M. C. A. Smith College Y. W. C. A. Worcester Polytechnic Institute Y. M. C. A.
WILMINGTON	GEORGIA University of Georgia Atlanta Athletic Club Y. M. C. A. Y. M. C. A.	AUBURN BANGOR	MICHIGAN Battle Creek Sanitarium (3 pools) Cass Technical High School Hutchins Intermediate School (2 pools) Barbour Intermediate School (2 pools) Burroughs Intermediate School Webster Hall Women's City Club
WASHINGTON	IDAHO Y. M. C. A.	ANNAPOLIS BALTIMORE HAGERSTOWN PORT DEPOSIT	
CORAL GABLES	ILLINOIS Argo High School Michael Reese Hospital Nurses' Home Holy Family of Nazarus Academy North Avenue Baths Sovereign Hotel Union League Club for Boys University of Chicago Men's Pool West Side Knights of Columbus Y. M. C. A. Division St. Branch Y. M. C. A. Central Department Y. M. C. A. Hyde Park Branch (2 pools) Y. M. C. A. Wilson Avenue Branch Y. W. C. A. Central Branch Knights of Columbus Y. M. C. A. Warren Wright Pool Naval Training Station Marlowe's White City	BATTLE CREEK DETROIT	
ATHENS ATLANTA AUGUSTA LAGRANGE		BOSTON BROCKTON CAMBRIDGE HOLYOKE NORTH ADAMS NORTHAMPTON WORCESTER	
BOISE			
ARGO CHICAGO			
EAST ST. LOUIS ELGIN GOLF GREAT LAKES HERRIN			



FLINT
GRAND RAPIDS
GROSSE ISLE
HAMTRAMCK
HIGHLAND PARK

JACKSON
KALAMAZOO
LANSING
OSHTOS
SAGINAW
YPSILANTI

CHISHOLM

ELY
FARIBAULT
GILBERT
HIBBING
MINNEAPOLIS

ROCHESTER
ST. PAUL

LAUREL

BOONEVILLE
KANSAS CITY
MARYVILLE
ST. JOSEPH
ST. LOUIS

BOZEMAN

LINCOLN
OMAHA

HANOVER

ENGLEWOOD
KEARNY
LAKEWOOD
NEWARK

NEW BRUNSWICK

NORTH BERGEN
ORANGE

PALISADES PARK
PATERSON
PLAINFIELD
PRINCETON
TRENTON

HOT SPRINGS

ALBANY
BROOKLYN

Detroit Athletic Club
Y. M. C. A. (Colored)
Elmwood Recreation Center
Atkinson Community Center
Central High School
Haskell Community Memorial Bldg.
R. H. Wilson Estate
Chas. T. Fisher Estate
High School
Henry Ford School
Highland Park High School
Stevens School
Senior High School
Y. W. C. A.
Boys' Vocational School
Community Center
F. P. Sommers Estate
High School

MINNESOTA

Chisholm Junior High School
Independent School District, No. 40
Memorial School
Shattuck Academy
Independent School District, No. 18
Hibbing High School
Association Club
Bryant High School
Lincoln High School
Central Branch Y. M. C. A.
Franklin Junior High School
Municipal Baths
University of Minnesota
Rochester High School
MacAlister College
St. Paul Athletic Club

MISSISSIPPI

Y. W. C. A.

MISSOURI

Kemper Military Academy
Fairmont Park
Missouri State Teachers College
Municipal Pool
Catharine Pool
St. Louis University
Towa Club
Y. M. C. A.
Y. M. H. A.

MONTANA

University of Montana

NEBRASKA

Country Club
Krog Park
Technical and Commercial High School

NEW HAMPSHIRE

Dartmouth College

NEW JERSEY

Englewood Field Club
High School
High School
Newman School
B'Nai Abraham Synagogue
Elks Club
Deerfield Park
Newark Athletic Club
Olympic Park
Y. M. and Y. W. H. A.
New Brunswick Recreation Co.
Y. M. C. A.
Columbia Park
Y. M. C. A.
Y. W. C. A.
Palisades Amusement Park
Y. M. H. A.
Y. W. C. A.
St. Joseph's College
Elementary and Intermediate High School
Immaculate Conception High School
Junior High School, No. 3

NEW MEXICO

Montezuma Baptist College

NEW YORK

Albany Bath House, No. 1
Bathhouse Branch Y. W. C. A.
Central Branch Y. M. C. A.
Freeman High School
Gate Commercial High School
James Madison High School
New Utrecht School

BUFFALO

CORTLAND
FOREST HILL, L. I.
GREAT NECK, L. I.
NEW YORK CITY

NIAGARA FALLS
ROCHESTER

ROME
TARRYTOWN
UTICA

WATERTOWN

YONKERS

ASHVILLE
BALTIMORE

CHARLOTTE

DURHAM
GREENSBORO
RALEIGH

STATESVILLE
WINSTON-SALEM

LEXINGTON
ATHENS
CINCINNATI

CLEVELAND

COLUMBUS

DAYTON
EAST CLEVELAND
HAMILTON
LORAIN
MIDDLETON
SPRINGFIELD
TIPPIN
TOLEDO

WOOSTER
ZENIA
ZANESVILLE

CUTWATER
LAWTON
OKLAHOMA CITY

BEND
PORTLAND

ALLENTOWN
ALTOONA
EASTON

ETNA
GERMANTOWN
GREENSBURG
HERSHEY
HOLLISTERSBURG
JEANETTE
JOHNSTOWN
LANCASTER
MONROVILLE
NEW CASTLE

Eagles Club
Mills Farm Pool
N. Y. State Normal School
Forest Hill Community Center
Lakewood Golf and Country Club
Brents Turkish Baths
17th St. Baths
18th St. Public Baths
W. 40th St. Baths
Church of All Nations
Fordham University
George Washington High School (2 pools)
Madison Branch Y. W. C. A.
Herkshire Foundation Pool
James Madison High School
Julia Robinson High School
Lakeside Baths
Holt House House
Public School, No. 72
Y. M. C. A.
Madison Junior High School
University of Rochester
Y. W. C. A.
Woman's Club
Rockefeller Pool
Y. M. C. A.
Y. W. C. A.
Municipal Pool
Y. W. C. A.
Tuscon Public Baths (2 pools)

NORTH CAROLINA

Ashville Country Club
Baltimore Estate
Forest Country Club
Charlotte Country Club
Elks Club
Y. W. C. A.
Duke University
N. C. College for Women
North Carolina State School for Blind
North Carolina State College of Agriculture
and Engineering
Municipal Pool
Y. M. C. A.
Y. W. C. A.

OHIO

Finland Clubhouse
Ohio University
Coney Island Amusement Co.
Phillips Pool
Central Ave. Bathhouse
H. M. Morse Pool
G. G. C. Parkhouse Estate
Lighthouse of Columbus
Glenview Park
Bromfield High School
Hawthorn High School
Hawthorn Park
Y. M. C. A.
Y. M. C. A.
Bromfield Junior High School
Y. M. C. A.
Athletic Club
Y. W. C. A.
Western College
Sullivan and Sullivan Brothers' House
Y. M. C. A.

OKLAHOMA

Mineral Wells
Lawton High School
Cimarron Amusement Co.
Bromfield High School
Hawthorn Junior High School

OREGON

Red Athletic Club
Lighthouse of Columbia
Y. W. C. A.

PENNSYLVANIA

Y. M. C. A.
Nata Beach Club
Lafayette College
Y. M. C. A.
Community House
Y. W. C. A.
Monroville View Hotel Co.
Bathhouse Clubhouse Co.
Y. M. C. A.
Deerfield Park
Holt Park Pool
Holt House House
Holt House Amusement Co.
Junior High School



NEW WILMINGTON
NORRISTOWN
PHILADELPHIA

PITTSBURGH

POTTSTOWN
READING
SCRANTON
SEWICKLEY
WILKES-BARRE

PAWTUCKET
PROVIDENCE

CHARLOTTE

ROCK HILL
SPARTANBURG

CHATTANOOGA
MEMPHIS

NASHVILLE

DALLAS

EL PASO
FORT WORTH
HUNTSVILLE
MCKINNEY
WACO

HOLLINS
WINCHESTER

BREMERTON
SEATTLE

SPOKANE
TACOMA

BETHANY
CHARLESTON

MATOAKA
WHEELING

GREEN BAY
JANESVILLE
MADISON
MILWAUKEE

TWO RIVERS

CHEYENNE

MONCTON

KITCHENER
LONDON
TORONTO

WINDSOR

Westminster College
Y. M. C. A.
Elks Club
Garden Apartments
Gerard College
Willow Grove Park
Woodside Park Pool
Athletic Club
Carnegie Technical Gymnasium
Kennywood Park
Pittsburgh Natatorium
The Hill School
Carsonia Park
Weston Field Pool
Y. M. C. A.
Y. W. C. A.

RHODE ISLAND

Boys' Club
Brown University

SOUTH CAROLINA

Y. M. C. A.
Y. W. C. A.
Winthrop Normal and Industrial College
Municipal Pool

TENNESSEE

Warner Park Natatorium
East End Park Amusement Co.
Memphis Country Club
Tri-State Fair Grounds
Y. W. C. A.

TEXAS

Lake Cliff Pool
Fair Park Pool
Golf and Water Sports Co.
Kidd Springs Boating and Fishing Club
Sunset Swimming Pool
Lake Worth Bathing Beaches
Sam Houston Normal School
McKinney Natatorium Co.
Municipal Pool

VIRGINIA

Hollins College
Robert Y. Conrad Post No. 21, American Legion

WASHINGTON

Army and Navy Y. M. C. A.
Park Comm.—Green Lake
Seattle Natatorium
Spokane Natatorium Co.
Stadium High School

WEST VIRGINIA

Bethany College
Luna Park
Splash Beach Park
J. E. Bailey Pool
Ritchie School
Y. M. C. A.

WISCONSIN

Y. M. C. A.
High School
University of Wisconsin (2 pools)
Bayview High School (2 pools)
Washington High School (2 pools)
Boys' Technical High School
Elks Club
High School

WYOMING

Crystal Ice Co. Park

CANADA

New Brunswick
Academy of the Sacred Heart

Ontario

Y. M. C. A.
City Pool
Broad View Y. M. C. A.
Eaton Girls' Club Pool
Sunnyside Amusement Park
Windsor Collegiate Inst.

LATUQUE
MONTREAL

BUENOS AIRES

MELBOURNE

BALBOA
CRISTOBAL

HANKOW
SHANGHAI
TIENTSIN

ROTTERDAM

MALMO

Quebec
Brown Corp., Ltd.
Montreal High School

FOREIGN

Argentina
Jockey Club

Australia
Y. W. C. A.

Canal Zone
Army and Navy Y. M. C. A.
Army and Navy Y. M. C. A.

China
Hankow Club Pool
American Country Club
Swimming Pool

Holland
Haarlem Pool, University of Holland
Municipal Pool

Sweden
Pool



W&T CHLORO BOAT

The W&T Chloro Boat has been developed to chlorinate small lakes, ponds and other bathing areas that do not have a recirculating system.

The sanitation of swimming pools is distinctly a sanitary engineering problem. Our large staff of trained specialists are always ready to study your swimming pool problem. In addition to furnishing chlorinating apparatus, we will be very pleased to forward our recommendations and quotation on filters, pumps and such other equipment as may be necessary. We will be glad to have one of our engineers call to see you upon request.

WALLACE & TIERNAN
COMPANY, INCORPORATED
NEWARK, NEW JERSEY

Mfd. in U.S.A.